

REMARKS

Claims 1-21 and 26-35 are pending. Claim 13 has been amended to delete the expression objected to, and an additional dependent claim 35 added to recite the additional limitation stricken from claim 13. New claim 35 depends from claims 11 and 12. A multiple dependent claim fee has already been paid in this case, and additional claim fees are submitted herewith. Claim 34 has been amended to depend from claim 5, which includes antecedent basis for the term "combustion promoter."

Rejections Under 35 U.S.C. §102(b)

Claims 1-21, 26-28 and 34 stand rejected as anticipated by Kuan, GB 2139498 ("Kuan"), Eisner et al., U.S. Patent 5,447,713 ("Eisner"), and Waples, U.S. Patent 2,224,622 ("Waples"). The Kuan, Eisner and Waples patents do not disclose a combustible **paperboard strip** useful as a substance delivery device for a substance toxic to insects and/or a perfume. Kuan's strip is formed of wood powder and starch. Kuan includes a backing sheet, but the backing sheet is not formed of paperboard, nor is it impregnated with insecticide. Eisner discloses the use of a woodchip and binder combination or pressed wood fibers. Waples discloses a mixture of resins with a vegetable fiber of wood pulp or paper. As set forth on pages 1 and 2 of the specification, paperboard is very different from materials used by Kuan, Eisner and Waples and the use of paperboard in the present invention leads to substantial improvements in performance over prior art substance delivery devices.

Resin bound delivery devices tend to "dust" when small particles break off during handling. Further, use of wood fibers leads to a less flexible product than paperboard which uses the cellulosic fibers used in making paper. Paperboard is formed by a distinct process involving felting of fibers from solution and drying the resulting interlocked fiber mesh. This results in a flexible material of a uniform consistency, which can be readily distinguished from other products by visual inspection. In view of this clear distinction over the prior art recited in the claims, withdrawal of the rejections under 35 U.S.C. §102(b) is warranted and respectfully requested.

Rejection Under 35 U.S.C. §103

Claims 1, 2, 5, 6, 8, 9, 11, 16-21, 26, 27, and 29-34 stand rejected as obvious over Chinese Patent 2,356,495 ("CN 2"), in view of Bordenea, U.S. Patent 3,767,785 ("Bordenea"), Waples, and Yano et al., U.S. Patent 5,505,491 ("Yano"). As noted above, Waples does not use paperboard. Further, neither CN 2 or Yano disclose the use of paperboard. CN 2 teaches paper, not paperboard, coils that suffer from unpredictable burn rates and poor structural strength. Bordenea does not meet the deficiencies of the other cited art, and cannot be combined therewith.

Bordenea is directed to making insect proof packaging, clothing or other articles. Bordenea's products are not designed to facilitate combustion for substance delivery, much less to maximize an even burn rate, but the contrary. Bordenea is designed to preserve the lifetime of materials by adding insect repellant thereto. Thus, Bordenea teaches away from facilitating the destruction of a product and dissemination of its contents by burning. Therefore, one of skill in the art would not combine the teachings of Bordenea with the prior art as suggested.

The present invention provides non-obvious solutions to problems that have confronted the insect repellant industry for many years, specifically insect repellant coil breakage due to overly brittle compositions and unpredictable or undesirable burn rates. It is respectfully noted that an estimated 100 million mosquito coils are sold worldwide each year, predominantly in third world countries with poor distribution networks. This makes product performance critical for remotely-manufactured products as returns are difficult or impossible. Further, use of these products is critical to reducing insect-borne diseases in many impoverished areas, where cost of manufacture and delivery must be minimized. A plethora of local manufacturing facilities leads to increased costs due to loss of economies of scale.

The majority of coils sold are woodchip/resin compositions impregnated with insecticide. These are brittle, and approximately one third arrive at retail outlets damaged in some form. These prior art coils also produce a powder or "dust" resulting from their frangible and inflexible nature, which can be hazardous to workers involved in their manufacture and distribution. Further, in order to obtain long burn times, prior art coils had to be very thick, increasing the bulk and weight thereof, and consequently

leading to higher shipping and storage costs. Paper coils, readily distinguished from the paperboard products of the present inventions, suffer from fast and unpredictable burn rates.

The present inventions surprisingly accomplish stable and predictable burn rates with a material that is less dense and far more flexible than prior woodchip and/or resin bound products. As a result, far less product is damaged in transit, and the lighter weight leads to substantial savings in shipments. Further, since the present invention can be produced at a remote central location where manufacturing costs can be minimized, economies of scale are introduced to a highly competitive market.

Insect repellant coils and paperboard have been known for many years. Despite the many advantages from making a paperboard substance delivery device in accordance with the present inventions, the prior art is devoid of any teaching or suggestion of same. In view of the forgoing it is clear that the present inventions are not obvious, and withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

If there are any issues that the Examiner would like to discuss prior to issuing a Notice of Allowance, please telephone the undersigned at 408-971-0627 to expedite allowance.

Respectfully submitted,

2 October 2003

Date

Daniel B. Schein

Daniel B. Schein, Ph.D., Esq.
Registration No. 33,551

Attorney for Applicants
BRINKS HOFER GILSON & LIONE
P.O. BOX 10395
CHICAGO, ILLINOIS 60610
Tel: 408-971-0627
Fax: 408-971-0627